

## ASCII Character Codes

DEC	CHAR	DEC	CHAR	DEC	CHAR
000	CTRL-@	043	+	086	V
001	CTRL-A	044	,	087	W
002	CTRL-B	045	.	088	X
003	CTRL-C	046	/	089	Y
004	CTRL-D	047	/	090	Z
005	CTRL-E	048	0	091	1
006	CTRL-F	049	1	092	\
007	CTRL-G	050	2	093	1
008	BS	051	3	094	1
009	HOR. TAB	052	4	095	-
010	LINE FEED	053	5	096	.
011	VERT. TAB	054	6	097	a
012	FF	055	7	098	b
013	CR	056	8	099	c
014	CTRL-N	057	9	100	d
015	CTRL-O	058	:	101	e
016	CTRL-P	059	:	102	f
017	CTRL-Q	060	<	103	g
018	CTRL-R	061	=	104	h
019	CTRL-S	062	>	105	i
020	CTRL-T	063	?	108	j
021	CTRL-U	064	@	107	k
022	CTRL-V	065	A	108	l
023	CTRL-W	066	B	109	m
024	CTRL-X	067	C	110	n
025	CTRL-Y	068	D	111	o
026	CTRL-Z	069	E	112	p
027	CTRL-[	070	F	113	q
028	CTRL-\	071	G	114	r
029	CTRL-]	072	H	115	s
030	CTRL-↑	073	I	116	t
031	CTRL-—	074	J	117	u
032	SPACE	075	K	118	v
033	!	076	L	119	w
034	"	077	M	120	x
035	#	078	N	121	y
036	\$	079	O	122	z
037	%	080	P	123	{
038	&	081	Q	124	—
039	*	082	R	125	—
040	(	083	S	126	-
041	)	084	T	127	DEL
042	*	085	U		

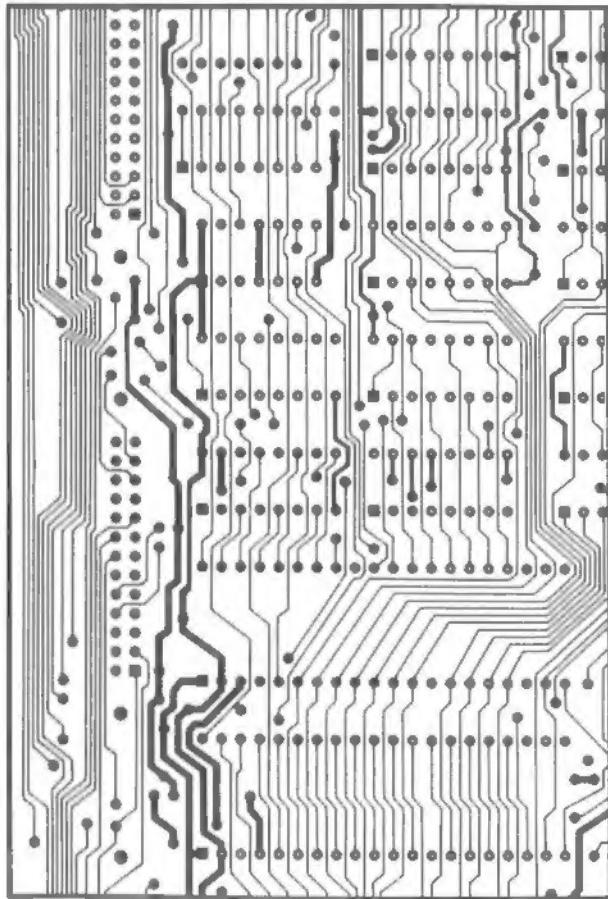
CTRL = Control Character BS = Backspace

CR = Carriage Return FF = Form Feed DEL = Rubout

## Cromemco 16K Basic Features

- Semi-compiling design — combines the best features of both interpreters and compilers — yields exceptionally fast execution times
- Allows 3 types of variables:
  - \* integer (2 bytes) range +32767 to -32768
  - \* short floating point (4 bytes) range ±9.99E+62 to ±9.99E-65
  - \* long floating point (8 bytes) range ±9.99E+62 to ±9.99E-65
- 14 digit accuracy
- Advanced floppy disk I/O capabilities
- Binary and ASCII storage for both programs and data
- Sequential and random access files
- English language error messages
- Syntax error checking as program is entered
- Dynamic error trapping
- TRACE and immediate mode to facilitate debugging
- Advanced string handling capabilities
- Advanced output formatting capabilities
- Chaining of programs
- Direct machine language interaction

# Cromemco 16K Extended Basic Instruction Set



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# Cromemco 16K Basic Instructions

## Abbreviations:

**A, B, C, D** variables  
**m, n, p, r** integers  
**E, F, G, H** expressions or variables  
 (H may be relational)  
**L1, L2** line numbers  
**stmtt** statement  
**strng** string expression  
**[ ]** optional parameter  
**{ }** choose one parameter  
 may be repeated  
**...**  
**fn** file number  
**p1, p2** parameters  
**s** one letter  
**\*** do not use with line no.  
**\*\*** use only with line no.  
**†** disk basic only  
**byte** byte value  
**fmt** format  
**dr:** drive:

**ABSolute** value (E)  
**ASCII** (A\$)  
**ATN**(E) arctangent  
**\* AUTO**Line L1, L2  
  
**BINAND** (A, B)  
**BINOR** (A, B)  
**BINXOR** (A, B)  
**† BYE**  
  
**CHR\$** (A) ASCII character  
**CLOSE** [\n\n]  
**\* CONTinue**  
**COSine** (E)  
**+ CREATE** strng  
  
**\*\* DATA** [A] [strng] [b...]  
**DEGree**  
**DELETE** L1, L2  
**DEF FN**s (A) = E  
**DIM** A [(m)] [, B(n, p, r)...]  
**†\* DIR**ectory [dr:] [strng]  
**+ DiSK** [dr:]  
  
**ECHO**  
**\*\* END**  
**ENTER** strng  
**+ ERASE** strng  
**ESCAPE**  
**EXPonent** (E)

**{FOR** A = E **TO** F [**STEP** G]  
**{NEXT** A  
**FRActional** part (E)  
**FREE** space (E)  
**GET** \In [,p1 [,p2]] \[E, F...]  
**GOTO** L1  
**{GOSUB** L1  
**{RETURN**  
  
**IF** H **THEN** {L1} {stmtt}  
**IMODE**  
**INPUT** [\In, p1, p2\] {strng} A[,B,...] [:]  
**INTEGER** A [(m)] [, B...]  
**INTeger** (E)  
**INP** (m)  
**IOSTAT** (In, m)  
**IRN** (E) integer random number generator  
  
**LENgth** (A\$)  
**[LET]** A = E  
**LFMODE**  
**LIST** [strng.] [L1[L2]]  
**LONG** A [(m)] [,B,...]  
**LOGarithm** (E)  
**† LOAD** strng  
  
**MAXimum** (E)  
**+ MAT** A = E  
**MINimum** (E)  
  
**NOECHO**  
**NOESCape**  
**NoTRACE**  
  
**ON** E {GOTO} {GOSUB} L1  
**ON ERROR** {STOP} {GOTO} {GOSUB} L1  
**ON ESCape** {STOP} {GOTO} {GOSUB} L1  
**OPEN** \In [,p1[,p2]] \ strng  
**OUT** m, byte  
  
**PEEK** (m)  
**POSition** (A\$, Y\$, n)  
**POKE** m, byte  
**(PRINT)** (@) [\In, p1, p2\] [**USING** fmt] [E()] [F...]  
**PUT** \In [,p1[,p2]] \[E, F...]  
  
**RADIans**  
**RANDOMIZE**  
**READ** A [,B,...]  
**REM** [anything you want]  
**RESTORE**  
**\* RENUMBER**  
**+ RENAME** strng-old, strng-new

**RND** (E) random number generator values  
**RUN** [strng]  
  
**+ SAVE** strng  
**SCRatch**  
**SET** m,A  
**SFMODE**  
**SGN** (E) algebraic sign  
**SHORT** A [(m)] [,B,...]  
**SINE** (E)  
**SPaCe** (E) use with PRINT  
**SQR** (E) square root  
**\*\* STOP**  
**STR\$** (n) string  
**SYStem** (E)  
  
**TANgent** (E)  
**TAB** (E) use with PRINT  
**TRACE**  
  
**USeR** (A, p1 [,p2...])  
  
**VALue** (A\$)

Hexadecimal — Decimal Conversion Table

HEXADECIMAL COLUMNS				
4	3	2	1	
HEX = DEC	HEX = DEC	HEX = DEC	HEX = DEC	
0	0	0	0	0
1	4,096	1	256	1
2	8,192	2	512	2
3	12,288	3	768	3
4	16,384	4	1,024	4
5	20,480	5	1,280	5
6	24,576	6	1,536	6
7	28,672	7	1,792	7
8	32,768	8	2,048	8
9	36,864	9	2,304	9
A	40,960	A	2,560	A
B	45,056	B	2,816	B
C	49,152	C	3,072	C
D	53,248	D	3,328	D
E	57,344	E	3,584	E
F	61,440	F	3,840	F
7	6	5	4	0
6	5	4	3	2
5	4	3	2	1
4	3	2	1	0
3	2	1	0	7
2	1	0	7	6
1	0	7	6	5
0	0	7	6	4
				3
				2
				1
				0
				BYTE
				BYTE